All other sums can be derived from them by applying rules which are given in A. M. Zayezdnyy (Radiotekhnika, 1958, Vol. 8, No. 4). Present paper describes a number of calculation examples: 1) Systems of first order, where particular solutions of Eqs. 1), 2), 3) are valid:

$$\left.\begin{aligned} &\frac{dy}{dx}+a_0y=\frac{\alpha_0}{2}+\sum_{n=1}^{\infty}(\alpha_n\cos nx+\beta_n\sin nx)\\ &y=\frac{\alpha_0}{2a_0}+a_0z(x)-z'(x).\\ &z(x)=\sum_{n=1}^{\infty}\frac{\alpha_n}{n^2+a_0^2}\cos nx+\sum_{n=1}^{\infty}\frac{\beta_n}{n^2+a_0^2}\sin nx \end{aligned}\right\}9)$$

1. example: Effect of a voltage having a quadratic wave form or a square pulse train which is acting on an RC or RL circuit (Fig. 1). The following expression is derived for an RC circuit:

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$$i = \frac{E}{R}\left(1 + \text{th}\frac{\alpha T}{4}\right)e^{-\alpha t} \quad \left(0 < t < \frac{T}{2}\right),$$
$$i = -\frac{E}{R}\left(1 + \text{th}\frac{\alpha T}{4}\right)e^{-\alpha\left(t-\frac{T}{2}\right)} \quad \left(\frac{T}{2} < t < T\right). \qquad (a)$$

and

$$i = \frac{E}{R}\left[1 - \left(1 + \text{th}\frac{\alpha T}{4}\right)e^{-\alpha t}\right] \quad \left(0 < t < \frac{T}{2}\right),$$
$$i = -\frac{E}{R}\left[1 - \left(1 + \text{th}\frac{\alpha T}{4}\right)e^{-\alpha\left(t-\frac{T}{2}\right)}\right] \left(\frac{T}{2} < t < T\right). \qquad (b)$$

for an RL circuit, where $\alpha = \frac{1}{RC}$ respectively $\alpha = \frac{R}{L}$. If a constant dc voltage E is applied to an RC circuit at a time t = 0, then the transient process is calculated to be

$$i = \frac{E}{2R}\left(1 + \text{th}\frac{\alpha T}{4}\right)e^{-\alpha t} \qquad (c)$$

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and if $\alpha T \gg 1$ (pulse period is much greater than the time constant of the RC circuit) then the well known expression $i = \frac{E}{R}\exp(-\alpha t)$ is obtained. Analogous equations for an RL circuit are:

$$I = \frac{E}{2R}\left[2 - \left(1 + \operatorname{th}\frac{\alpha T}{4}\right)e^{-\alpha t}\right] \qquad (d)$$

and $i = \frac{E}{R}\left[1-\exp(-\alpha t)\right]$. 2. example: Effect of a saw-tooth voltage on an RC or RL circuit. The following expressions have been derived: For an RC circuit

$$I(t) = \frac{E}{R}\left(\frac{1}{\alpha T} - \frac{1}{1-e^{-\alpha T}}e^{-\alpha t}\right) \quad (0 < t < T). \qquad (e)$$

and for an RL circuit

$$I(t) = \frac{E}{R}\left(\frac{t}{T} - \frac{1}{\alpha T} + \frac{1}{1-e^{-\alpha T}}e^{-\alpha t}\right) \quad (0 < t < T). \qquad (f).$$

3. example: Effect of a square-pulse train with a pulse ratio (>2)

which is applied to an RL circuit.

$$i(t)=\frac{E}{R}\left[1-\frac{\operatorname{sh}\alpha\left(\frac{T}{2}-\tau\right)}{\operatorname{sh}\frac{\alpha T}{2}}e^{-\alpha t}\right]\quad(0<t<\tau),$$

$$i(t)=\frac{E}{R}\frac{\operatorname{sh}\alpha\tau}{\operatorname{sh}\frac{\alpha T}{2}}e^{\frac{\alpha T}{2}}e^{-\alpha t}\quad(\tau<t<T-\tau),\qquad(8)$$

$$i(t)=\frac{E}{R}\left[1-\frac{\operatorname{sh}\alpha\left(\frac{T}{2}-\tau\right)}{\operatorname{sh}\frac{\alpha T}{2}}e^{\alpha T}e^{-\alpha t}\right]\quad(T-\tau<t<T).$$

has been derived for this circuit. 2. Systems of second order: Here, the particular solutions of Eqs. (1), (2), and (3) hold:

$$\left.\begin{aligned}&\frac{d^2y}{dx^2}+a_1\frac{dy}{dx}+a_0y=\frac{a_0}{2}+\sum_{n=1}^{\infty}(\alpha_n\cos nx+\beta_n\sin nx)\\&y=\frac{a_0}{2a_0}+a_0z(x)-a_1z'(x)+z''(x)\\&z(x)=\sum_{n=1}^{\infty}\frac{\alpha_n\cos nx+\beta_n\sin nx}{(n^2-a_0)^2+a_1^2n^2}\end{aligned}\right\}\qquad(10)$$

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4. example: A periodic voltage having a parabolic wave form is applied to an LCR circuit. The following equation has been derived:

$$i(t)=\frac{E}{\sqrt{\alpha^2-\omega_0^2}}\left(\frac{e^{p_1 t}}{1+e^{p_1\frac{T}{2}}}-\frac{e^{p_2 t}}{1+e^{p_2\frac{T}{2}}}\right)\quad\left(0<t<\frac{T}{2}\right) \tag{h};$$

for the second half of the period the solution is represented by $i(t) = -i(t-\frac{T}{2})$, where $2\alpha = R/L$; $\omega_0^2 = 1/(LC)$ and $p_{1,2} = -\alpha \pm \sqrt{\alpha^2-\omega^2}$.

5. example: A sinusoidal pulse train is applied to an LCR circuit

$$i(t)=\frac{E}{\sqrt{R^2+\left(\Omega L-\frac{1}{\Omega C}\right)^2}}\sin(\Omega t-\varphi)+$$

$$+\frac{E}{L(p_1-p_2)}\left[\frac{p_1\Omega}{(p_1^2+\Omega^2)\left(1-e^{p_1\frac{T}{2}}\right)}e^{p_1 t}-\frac{p_2\Omega}{(p_2^2+\Omega^2)\left(1-e^{p_2\frac{T}{2}}\right)}e^{p_2 t}\right] \tag{i}$$

$$\left(0<t<\frac{T}{2}\right).$$

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and for the second half of the period

$$i(t)=\frac{E}{\sqrt{R^2+\left(\Omega L-\frac{1}{\Omega C}\right)^2}}\sin(\Omega t-\varphi)+$$

$$+\frac{E}{L(p_1-p_2)}\left[\frac{p_1\Omega e^{-p_1\frac{T}{2}}}{(p_1^2+\Omega^2)\left(1-e^{p_1\frac{T}{2}}\right)}e^{p_1 t}-\frac{p_2\Omega e^{-p_2\frac{T}{2}}}{(p_2^2+\Omega^2)\left(1-e^{p_2\frac{T}{2}}\right)}e^{p_2 t}\right]. \qquad (k),$$

$$\left(\frac{T}{2}<t<T\right)$$

where

$$\operatorname{tg}\varphi=\frac{\Omega L-\frac{1}{\Omega C}}{R} \qquad (1);$$

if $\alpha > \omega_0$ these are final expressions, if $\alpha < \omega_0$ then

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$$i(t) = \frac{E}{\sqrt{R^2 + \left(\Omega L - \frac{1}{\Omega C}\right)^2}} \left\{ \sin(\Omega t - \varphi) - \right.$$

$$- e^{-\alpha t} \frac{\left(\frac{\alpha}{\omega} \sin\varphi + \frac{\omega_0}{\Omega} \cos\varphi\right) \left[\sin\omega t - e^{-\alpha\frac{T}{2}} \sin\omega\left(t - \frac{T}{2}\right)\right] - \cdots}{1 + e^{-\alpha T} - 2e^{-\alpha\frac{T}{2}} \cos\omega\frac{T}{2}}$$

$$\left. - \frac{- \sin\varphi \left[\cos\omega t - e^{-\alpha\frac{T}{2}} \cos\omega\left(t - \frac{T}{2}\right)\right]}{\left(0 < t < \frac{T}{2}\right)} \right| \qquad (m).$$

For a circuit with a very high Q factor it can be assumed $\omega \approx \omega_0$ and $\alpha \ll \omega$, here, the following expression is obtained:

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$$i(t) = \frac{E}{\sqrt{R^2 + \left(\Omega L - \frac{1}{\Omega C}\right)^2}} \left\{ \sin(\Omega t - \varphi) - \right.$$

$$\left. - e^{-\alpha t} \frac{\frac{\omega_0}{\Omega} \cos\varphi \left[\sin\omega t - e^{-\alpha \frac{T}{2}} \sin\omega\left(t - \frac{T}{2}\right)\right] - \sin\varphi \left[\cos\omega t - e^{-\alpha \frac{T}{2}} \cos\omega\left(t - \frac{T}{2}\right)\right]}{1 + e^{-\alpha T} - 2e^{-\alpha \frac{T}{2}} \cos\omega \frac{T}{2}} \right\} \quad (n).$$

$$\left(0 < t < \frac{T}{2}\right)$$

For a resonant tuned circuit $\omega_0 = \Omega$, i.e.,

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$$i(t) = \frac{E}{R}\left(1 - \frac{e^{-\alpha t}}{1+e^{-\alpha\frac{T}{2}}}\right)\sin\Omega t \quad \left(0 < t < \frac{T}{2}\right),$$

$$i(t) = \frac{E}{R}\left[1 + \frac{e^{-\alpha\left(t-\frac{T}{2}\right)}}{1+e^{-\alpha\frac{T}{2}}}\right]\sin\Omega t \quad \left(\frac{T}{2} < t < T\right). \qquad (o).$$

Assuming $\alpha\frac{T}{2} = \frac{\pi}{2Q} \ll 1$ and $e^{-\alpha\frac{T}{2}} \approx 1$,

$$i(t) = \frac{E}{R}\left(1 - \frac{1}{2}e^{-\alpha t}\right)\sin\Omega t \quad \left(0 < t < \frac{T}{2}\right),$$

$$i(t) = \frac{E}{R}\left[1 + \frac{1}{2}e^{-\alpha\left(t-\frac{T}{2}\right)}\right]\sin\Omega t \quad \left(\frac{T}{2} < t < T\right) \qquad (p)$$

is obtained finally. There are 4 figures and 13 references: 12 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: November 16, 1959 (initially)
May 11, 1960 (after revision)

Card 12/13

FERSMAN, B.A.; PAK, I.N.; ZAYEZDNIY, A.M., red.; GAL'CHINSKAYA, V.V., tekhn. red.

[Tables and formulas of sums of trigonometric series of the type $\sum_{n=1}^{\infty} \frac{I_n(r)}{n^2+a^2} \cos nx$ and $\sum_{n=1}^{\infty} \frac{nI_n(r)}{n^2+a^2} \sin nx$ textbook]Tablitsy i formuly summ trigonometricheskikh riadov vidov $\sum_{n=1}^{\infty} \frac{I_n(r)}{n^2+a^2} \cos nx$ i $\sum_{n=1}^{\infty} \frac{nI(r)}{n^2+a^2} \sin nx$; uchebnoe posobie. Pod red. A.M.Zaezdnogo. Leningrad, 1961. 47 p. (MIRA 15:12)

1. Leningrad. Elektrotekhnicheskiy institut svyazi.
(Fourier series) (Mathematics—Tables, etc.)

ZA[illegible]FZDNYY, A.M.; KUSHNIR, V.F.; RAMM, G.S., otv. red.; GAL'CHINSKAYA, V.V., tekhn. red.

[Parametric systems; outline of lectures on the course "Theoretical radio engineering."] Parametricheskie sistemy; konspekt lektsii iz kursa "Teoreticheskaia radiotekhnika." Leningrad, Leningr. elektrotekhn. in-t sviazi, 1962. 110 p. (MIRA 17:3)

ZAYEZDNYY, A.M.; GAL'CHINSKAYA, V.V., tekhn. red.

[Principles of the theory of discrete transformation of continuous communication; Kotel'nikov's theorem] Osnovy teorii diskretizatsii neprerynykh soobshchenii; teorema Kotel'nikova. Konspekt lektsii po kursu "Teoreticheskaia radiotekhnika." Leningrad, Elektrotekhnicheskii in-t sviazi, 1963. 13 p. (MIRA 17:2)

KUSHNIR, V.F.; YUROVSKIY, A.V.; NIKOLAYEVA, T.T.; ZAYEZDNYY, A.M., red.

[Tables and formulas of V.K.Turkin functions $T\binom{1}{m}(x,\alpha)=\sum_{n=-\infty}^{\infty}\frac{J_n(x)J_{n-m}^{(x)}}{n-\alpha}$; a manual] Tablitsy i formuly funktsii V.K.Turkina, $T\binom{1}{m}(x,\alpha)=\sum_{n=-\infty}^{\infty}\frac{J_n(x)J_{n-m}^{(x)}}{n-\alpha}$; uchebnoe posobie. Leningrad, 1963. (MIRA 17:9)

89 p.

1. Leningrad. Elektrotekhnicheskiy institut svyazi.

GOL'DENBERG, Lev Moiseyevich; ZAYEZDNYY, A.M., otv. red.; YAKOBSON, A.Kh., red.; ROMANOVA, S.F., tekhn. red.

[Principles of pulse techniques] Osnovy impul'snoi tekhniki. Moskva, Svias'izdat, 1963. 399 p. (MIRA 16:7)
(Pulse techniques (Electronics))

ZAYEZDNYY, A.M.; EYDUKYAVICHYUS, O.V.

Abridged representation of signals with the aid of a system of orthogonal functions. Radiotekhnika 18 no.11:5-12 N '63. (MIRA 16:12)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.

ZAYEZDNYY, A.M.; FEL'DMAN, B.A., retsenzent; KHANOVICH, I.G., red.

[Principles of statistical radio engineering; a manual (chapters 3-6)] Osnovy statisticheskoi radiotekhniki; uchebnoe posobie (par.3-6). Leningrad, Leningr. elektrotekhn. in-t sviazi, 1964. 104 p. (MIRA 18:8)

ZAYEZDNYY, A.M.; MAKHOVICH, I.M.

Criteria for evaluating the stability of communication channel characteristics. Elektrosviaz' 18 no.12:71-72 D '64.
(MIRA 18:1)

ACCESSION NR: AP4038598 S/0108/64/019/005/0017/0025

AUTHOR: Zayezdny*y, A. M. (Active member); Baskin, R. F. (Active member)

TITLE: Iterated networks passing complex-shape periodic oscillations

SOURCE: Radiotekhnika, v. 19, no. 5, 1964, 17-25

TOPIC TAGS: electric network, iterated network, ladder network

ABSTRACT: Harmonic synthesis and some results of the modern quadripole theory are used for studying the steady-state and transient processes in iterated networks (e.g., a ladder network) when they are energized by a complex-shape periodic voltage. The setting up of high-order differential equations is carried out by the quadripole theory and matrix calculus as reported by A. M. Zayezdny*y earlier (LEIS, 1962). The roots of a characteristic operator are determined by means of Cheby*shev's polynomials. The transfer factor of a series of m four-pole sections is an m-th order Cheby*shev's polynomial of the transfer factor of

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a component section. Iterated networks consisting of first-order (a high-pass filter) and second-order (an LC low-pass filter) sections are considered. Transient characteristics can be obtained from the general solution treated as a particular case in which square pulses have a long repetition period. Orig. art. has: 4 figures and 45 formulas.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi (Scientific and Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 12Apr63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: EC NO REF SOV: 007 OTHER: 000

Card 2/2

ZAYEZDNYY, A.N.

Review of I.S. Gonorovskii's book "Radio circuits and signals." Radiotekhnika 19 no.9:74-77 S '64. (MIRA 17:10)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi im. A.S. Popova.

ZAYEZHNYY, A.M.; KHANOVICH, I.G.

Comparative characteristics of communication systems. Elektrosviaz' 19 no.4:1-8 Ap '65. (MIRA 18:6)

L 33145-66 EWT(d)/FSS-2

ACC NR: AR6012293 SOURCE CODE: UR/0274/65/000/010/A007/A007

AUTHOR: Zayezdnyy, A. M.; Khanovich, I. G.

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TITLE: Theory of self-organizing communication systems

SOURCE: Ref. zh. Radiotekhnika i elektrosvyaz', Abs. 10A49

REF SOURCE: Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR, vyp. 22, 1964, 3-12

TOPIC TAGS: communication system, signal noise separation

ABSTRACT: Principal solutions are set forth of some problems of the general theory of self-organizing communication systems which are broken into two groups: (a) a signal-type self-organization where the most noise-immune signals are selected for various types of noise and (b) a weight-function self-organization where the signal-noise separation is performed by auxiliary signals produced by the receiver (the shape of these signals depends on the type of noise). Optimal signals with a specified set of alphabets or with an alphabet formation are determined. Signal detection by means of a weight function is considered. It is stated that, in principle, the above systems can be synthesized and must include high-speed special computers. Bibliography of 4 titles. L. S. [Translation of abstract]

SUB CODE: 17, 09

Card 1/1 UDC: 621.391.19

ROSAKOV, Maksim Grigor'yevich; ZAYEZDNYY, Rafail Aronovich; YEROFEYEV, I.A., red.; ZAYTSEVA, K.F., red.kart; KORNEYEVA, V.I., tekhn.red.

[Kiev, capital of the Soviet Ukraine] Kiev - stolitsa Sovetskoi Ukrainy. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1960. 102 p. (MIRA 13:10)
(Kiev)

ZAYEZZHEV, N.M.; BORISENKO, S.T.; IGUMNOV, S.A.; KABRIZON, V.M.; TYAZHLOV, G.T.; SEDENKO, M.V.

Preservation of underground waters in connection with the drainage of ore deposits. Razvod. i okh. nedr. 30 no.11: 36-41 N '64. (MIRA 18:4)

1. Trest "Dneprogeologiya" (for all except Sedenko). 2. Dneprpetrovskiy gornyy institut (for Sedenko).

SKABALLANOVICH, Ivan Antonovich. Prinimali uchastiye: ZAYEZZHEV, N.M.; GOLYAKOV, I.P. VOLOD'KO, I.F., retsenzent; VLADIMIROV, A.G., red.; MATIN, M.L., red.izd-va; BYKOVA, V.V., tekhn.red.

[Method of trial pumpings] Metodika opytnykh otkachek. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr, 1960. 111 p. (MIRA 13:10)
(Mine drainage)

ZAYFFERT, K.; DAVYDOV, V.

Centralized freight haulage in socialist countries. Avt.transp. 39 no.9:58 S '61. (MIRA 14:10)
(Communist countries--Transportation, Automotive)

ZAYFFERT, V., kapitan

Fifteen years without a country. Starsh.-serzh. no.7:36-37 Jl '62. (MIRA 16:6)

(Motion picture plays)

ZAYFMAN, V.I.

Using pyridine as a solvent in plants. Med.prom. 11 no.4:34-39 Ap '57. (MLRA 10:6)

1. Moskovskiy khimiko-farmatsevticheskiy zavod imeni N.A.Semashko. (PYRIDINE)

S/119/62/000/002/008/010
D201/D301

AUTHORS: Zaygermacher, D.M. and Savel'yeva, K.A.

TITLE: Pneumatic instruments with centrifugal feedback

PERIODICAL: Priborostroyeniye, no. 2, 1962, 29-30

TEXT: The authors described the new pneumatic compensation instruments with feedback, developed at the NIITeplopribor: the pneumatic integrator ICM-48A (ISP-48A) and pneumatic motors MA-2 (PD-2M) and PD-60M. ISP-48A operates as follows: The pneumatic signal from the differential manometer proportional to the square of the flow of measured substance is applied to the input bellows of an integrator and displaces a lever which by means of a flap covers the nozzle of the balance indicator. Pressure is re-distributed during this in the pneumo-amplifier, so that an amplified signal passes into the circuit of a staring nozzle which drives the rotor. The force developed by the receiving bellows is balanced out by a centrifugal mechanism mounted on the rotor. The rotor shaft is connected through a reduction gear to a counter which performs the operation of

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addition of the shaft revolutions. The integrator adds the instantaneous values of flow with an accuracy of 1% from 15 to 30% of the maximum flow value. The instrument is undergoing tests at the 'Tizpribor' plant of Mosgorsovnarkhoz. The Smolensk branch of the NIITeplopribor has developed an attachment for this instrument which makes it possible to obtain pneumatic or electric cut-out signals. The pneumo-motors PD-2M and PD-60M were developed from the above described integrator and are used for chart driving in automatic recorders. The pneumatic motor utilizes the energy of a compressed air stream for moving a rotor, whose speed is maintained by a centrifugal regulator controlling the pressure of air in the nozzles through the pneumatic-amplifier-nozzle-flap system. There are 2 figures.

ZAYGEROV, I.B., inzh.

New mold conveyors. Mash.Bel. no.4:91-93 '57. (MIRA 11:9)
(Machine molding (Founding))

ZAYFRID, Mechislav [Zaifrid, Mieczislaw]

Organization of transportation on Polish railroads. Zhel. dor.transp. 41 no.7:9-15 Jl '59. (MIRA 12:12)

1. Nachal'nik Glavnogo upravleniya perevozok, Varshava.
(Poland--Railroads)

ZAYGERMAKHER, D.M.; SAVEL'YEVA, K.A.

Pneumatic devices with a centrifugal feedback. Priborostroenie no.2:29-30 F '62. (MIRA 15:2)

(Pneumatic machinery)

GVOZDEVICH, Aleksandr Makarovich; ZAYGEROV, Iosif Borisovich; KOROLEV, Vitaliy Arkad'yevich; SHMORGUN, Yakov Shayevich; KASHTANOV, F., red.; DOMOVSKAYA, G., tekhn. red.

[Mechanization of conveying operations in machinery plants; experience of the Minsk Tractor Factory] Mekhanizatsiia transportnykh operatsii v mashinostroenii; iz opyta raboty Minskogo traktornogo zavoda. Minsk, Gos.izd-vo BSSR. Red. proizvodstvennoi lit-ry, 1961. 70 p. (MIRA 15:2)
(Minsk—Conveying machinery)

ZAYGEROV, I.B.

28(1);25(1) P.B PHASE I BOOK EXPLOITATION SOV/2831

Mekhanizatsiya i avtomatizatsiya trudoyemkikh protsessov v liteynom proizvodstve (Mechanization and Automation of Labor-consuming Processes in Foundry Practice) Moscow, Mashgiz, 1959. 226 p. Errata slip inserted. 4,000 copies printed.

Reviewer: K. M. Skobnikov, Candidate of Technical Sciences; Ed. (Title page): G. I. Kobylyanskiy (Deceased); Ed. (Inside book): A. N. Sokolov, Candidate of Technical Sciences; Tech. Ed.: O. V. Speranskaya; Managing Ed. for Literature on the Technology of Machinery Manufacture (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and engineers engaged in the mechanization and automation of industrial processes. It may also be used by students of institutions of higher technical education.

COVERAGE: The book deals with recent achievements in the mechanization and automation of time-and labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented

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in this book is divided into six parts, dealing with the following subjects: molding materials, mold and coremaking, casting, shakeout of molds, finishing of castings, and special casting methods. Each part consists of a number of technical papers presented by several authors. The application of automation ranges from the preparation of molds and cores to the mechanization and streamlining of specialized casting methods, such as investment casting and the use of shell molds. There are numerous diagrams showing automatized and mechanized installations in foundries. Most of the material is based on experiments and work done at the "Krasnyy Aksay" Plant. Some of the methods described appear to be in the experimental stage at that plant. The technical papers published in this book were originally presented at a technical conference of the Soviet machine industry in October 1957. No personalities are mentioned. There are no references.

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AVAILABLE: Library of Congress

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PHASE I BOOK EXPLOITATION SOV/5585

Zaygerov, Iosif Borisovich

Regeneratsiya otrabotannykh smesey v liteynom proizvodstve; konstruktsiya i raschet pnevmaticheskikh regeneratov (Reclamation of Used Mixtures in Founding; Construction and Design of Pneumatic Reclaimers) Moscow, Mashgiz, 1961. 181 p. Errata slip inserted. 5,000 copies printed.

Reviewer: M. N. Sosnenko, Engineer; Ed. of Publishing House: A. I. Sirotin; Tech. Ed.: V. D. El'kind; Managing Ed. for Literature on the Hot Working of Metals: S. Ya. Golovin, Engineer.

PURPOSE: This book is intended for engineers and technicians in production and design in founding. It may also be used by students specializing in founding.

COVERAGE: A review is presented of existing methods and equipment for reclaiming used mixtures. A recently developed method for reclaiming mold and core mixtures, called the "pneumatic reclaiming method" and based on the utilization of a compressed-air blast is discussed in detail.

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Reclaimers of this type are called pneumatic reclaimers. The results of theoretical and experimental investigations of the performance of pneumatic reclaimers are presented. Design methods and a description of reclaiming-unit flow charts are given. The author acknowledges his use of the Transactions of VTI (All-Union Heat-Engineering Institute), written under the supervision of M. L. Kisel'gof, and the assistance of the following: A. M. Gvozdevich, Chief of the Mechanization Department of MTZ (Minskiy traktornyy zavod -- Minsk Tractor Plant); and Engineers Ya. Sh. Shmorgun, T. S. Timofeyev, R. I. Arav, A. I. Kuleshova, and G. Ye. Gorodetskiy. There are 34 references: 33 Soviet and 1 English.

TABLE OF CONTENTS:

ZAYGEROV, Iosif Borisovich; prinimali uchastiye: GVOZDEVICH, A.M., SHMORGUN, Ye.Sh., inzh.; TIMOFEYEV, T.S., inzh.; ARAV, R.I., inzh., KULESHOVA, A.I., inzh.; GORODETSKIY, G.Ye., inzh.; SOSNENKO, M.N., inzh. retsenzent; SIROTIN, A.I., red.; EL'KIND, V.D., tekhn. red.

[Reclamation of used sand mixtures; design of pneumatic reclaimers] Regeneratsiia otrabotannykh smesei v liteinom proizvodstve; konstruktsiia i raschet pnevmaticheskikh regeneratorov. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 181 p. (MIRA 14:5)

1. Nachal'nik otdela mekhanizatsii Moskovskogo transformativnogo zavoda (for Gvozdevich, Shmorgun, Timofeyev, Arav, Kuleshova, Gorodetskiy)

(Sand, Foundry) (Pneumatic machinery)

ZAYGEROV, I.B., insh.

Automatic equipment for knocking out and separating flasks on founding conveyors. Mash.Bel. no.4:94-99 '57. (MIRA 11:9)
(Foundry machinery and supplies)

ZAYOEROV, I.B.

Ways of automatizing metal pouring into molds on mold conveyors. (MIRA 11:4)
Lit. proizv. no.3:11-14 Mr '58.
(Foundry machinery and supplies)

ZAYICHEK

CZECHOSLOVAKIA/Physical Chemistry - Thermodynamics, Thermochemistry. B.

Abs Jour : Ref Zhur - Khimiya, No 12, 1958, 38928

Author : Rektorzhik, Rybachek, Zayichek.
Inst : -
Title : Cryoscopic Determinations.

Orig Pub : Ceskosl. farmac., 1957, 6, No 10, 595-599

Abstract : The authors made analytical determinations of the concentration of borate and phosphate buffer solutions simultaneously with cryoscopic depressions of those solutions and calculated isotonic compositions for them.

Card 1/1

SVOBODA, M.; KNAPEK, D.; ZAYICHEK, K.

Effect of the method of application of paint and varnish coatings on their protective properties. Lakokras.mat.i ikh prim. no.1:44-45 '63. (MIRA 16:2)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut zashchity materialov imeni G.V. Akimova, Praga. Chekhoslovatskaya Sotsialisticheskaya Respublika.
(Protective coatings)
(Paint materials)

Card 1/1

ZAYKA, A.A.; LITVAK, V.I.

Automatic polarimeters. Prib. i tekh.eksp. no.4:78-81 Jl-Ag '57.
(MIRA 10:10)

1.Kiyevskiy zavod kontrol'no-izmeritel'nykh priborov.
(Saccharimeter)

ZAYKA, I.N., kand.tekhn.nauk; DRABAN, A.Z., inzhener

Thermal properties of large blocks made of effective ceramic stones. Stroi.mat. 6 no.2:29-31 F '60. (MIRA 13:6)
(Building blocks) (Ceramic materials)

ZAYKA, I., kand.tekhn.nauk

Methods for drying green brick and its quality. Sil'.bud. 10 no.6:17-18 Je '60. (MIRA 13:6)
(Bricks--Drying)

1. ZAYKA, I. YE.

2. USSR (600)

4. Wheat

7. How the Volkov Collective Farm produces a high yield of winter wheat. Sov. agron. 10 No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

MAYBA, I. YE.

Seed Industry

Landing Seed culture collective farm. Sel. i sem., 19, No. 9, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

ZAIKA, Ivan Yefremovich; BENYUMOV, O.M., redaktor; FURMAN, G.V., tekhnicheskiy redaktor

[Raising high yields of grain in Kirovograd Province] Vyrashchivanie vysokikh urozhaev zernovykh v Kirovogradskoi oblasti. Moskva, Izd-vo "Znanie," 1956. 23 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.5, no.22) (MLRA 9:9)

1. Glavnyy agronom Kirovogradskogo oblastnogo upravleniya sel'skogo khozyaystva (for Zaika)
(Kirovograd Province--Grain)

Fuel Abstracts
Vol. XV, No. 2
Natural Solid
Fuels: Mining
Feb. 1954

971. ROCK MOVEMENT DURING WORKING OF SERIES OF SEAMS IN CONTACT. Zalka, K.F. (Ukrgl (Coal), Sept. 1953, 13-15). The problem of allowing for the removal of more than one coal seam in calculations is discussed. The importance of basing theory on underground as well as surface measurements is stressed. (L).

ZAYKA, N.I.; NEMETS, O.F.

Spins and parity levels of Ti^{47-50} and Sr^{89}. Izv.AN SSSR Ser. fiz. 24 no.7:865-868 Jl '60. (MIRA 13:7)

1. Institut fiziki Akademii nauk USSR.
(Titanium--Isotopes) (Strontium--Isotopes)

ZAYKA, N.I.; NEMETS, O.F.; PROKOPENKO, V.S.

Spins and parity levels of Ca^{41}. Izv.AN SSSR Ser.fiz. 24 no.7: 872-873 Jl '60. (MIRA 13:7)

1. Institut fiziki Akademii nauk USSR.
(Calcium--Isotopes)

ZAYKA, N.I.; NEMETS, O.F.; TSERINEO, M.A.

Spins and parity levels of C^{13}. Izv.AN SSSR Ser.fiz. 24 no.7: 862-864 Jl '60. (MIRA 13:7)

1. Institut fiziki Akademii nauk USSR i Institut "Rudzher Boshkovich" Zagreb, Yugoslaviya.
(Carbon--Isotopes)

ZAYKA, N.I.; LYUBANSKIY, O.B.; NEMETS, O.F.

Instrument for the conversion of readings from the binary to the decimal system. Prib. i tekh. eksp. no.6:130-131 N-D '60.
(MIRA 13:12)

1. Institut fiziki AN USSR.
(Information theory)

NEMETS, O. F.; TOKAREVSKIY, V. V.; ZAYKA, N. I., Kiev

"The level excitation probabilities in nuclear reactions."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics, Paris, 2-8 Jul 64.

ZAYKA, P.M.

Determining parameteres of auger conveyors in grain combines.
Trakt. i sel'khozmash. no.1:22-24 Ja '58. (MIRA 11:4)

1.Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina.
(Combines (Agricultural machinery))

IL'CHENKO, M.S., kand.tekhn.nauk; ZAYKA, V.V., inzh.

Ionization aging of the insulation of the high-voltage electric machinery. Izv.vys.ucheb.zav.; energ. 2 no.11: 42-46 N '59. (MIRA 13:4)

1. Kiyevskiy ordena Lenina politekhnicheskiy institut. Predstavlena kafedroy dielektrikov i poluprovodnikov.
(Electric insulators and insulation)
(Electric machinery)

ZAYKIN, A., dotsent; ZVEREV, A.

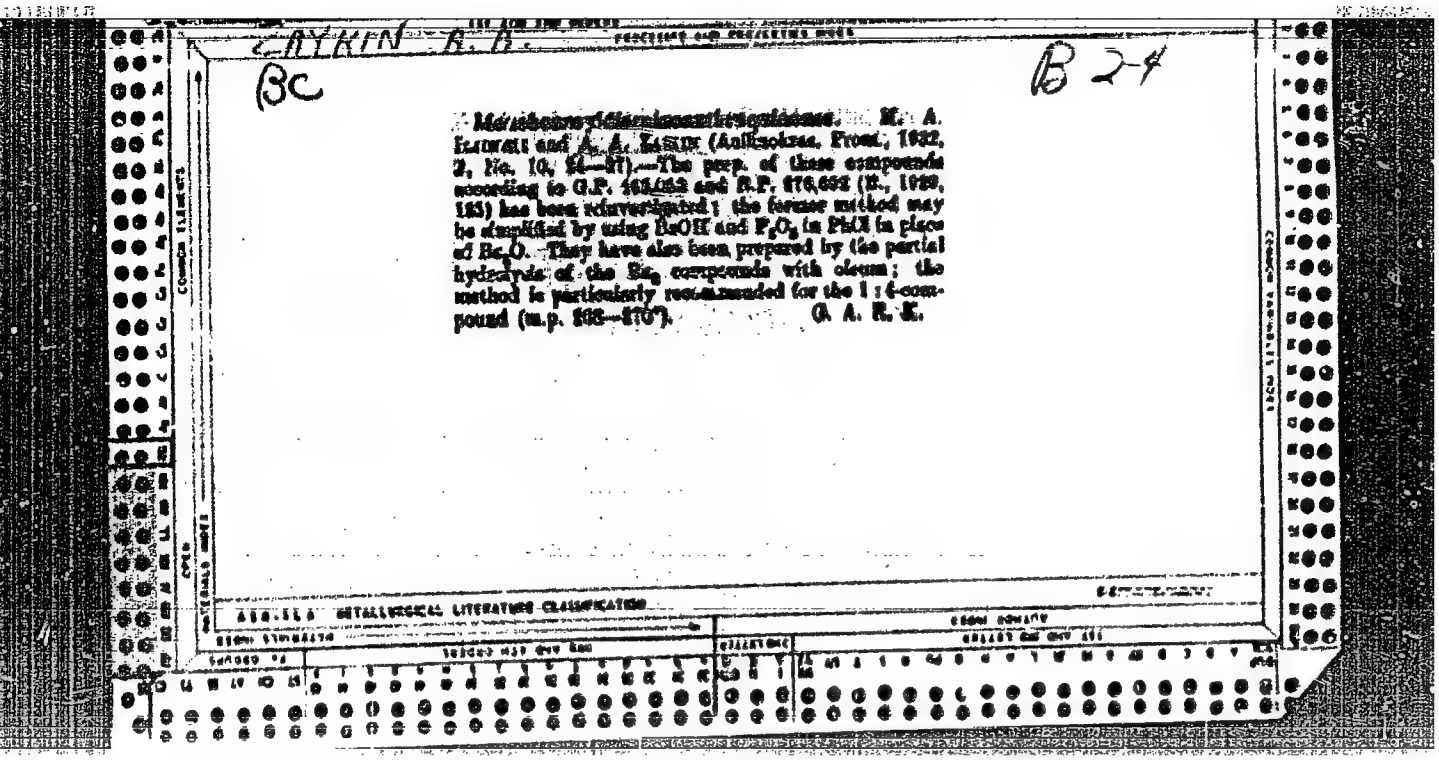
Activists check up. Okhr.truda i sots.strakh. 4 no.12:8 D '61.
(MIRA 14:11)

1. Predsedatel' obshchestvennogo soveta po kontrolyu za soblyudeniyem trudovogo zakonodatel'stva Moskovskogo gorodskogo soveta profsoyuzov i Moskovskiy gorodskogo soveta professional'nykh soyuzov (for Zverev).
(Moscow—Trade unions)
(Industrial hygiene)

ZAYKIN, Aleksey Danilovich; GORNOSTAYEVA, S.S., red.; SHCHEDRINA, N.L., tekhn. red.

[State social insurance in the U.S.S.R.] Gosudarstvennoe sotsial'noe strakhovanie v SSSR. Moskva, Gosiurizdat, 1963. 40 p. (MIRA 16:7)

(Insurance, Social)

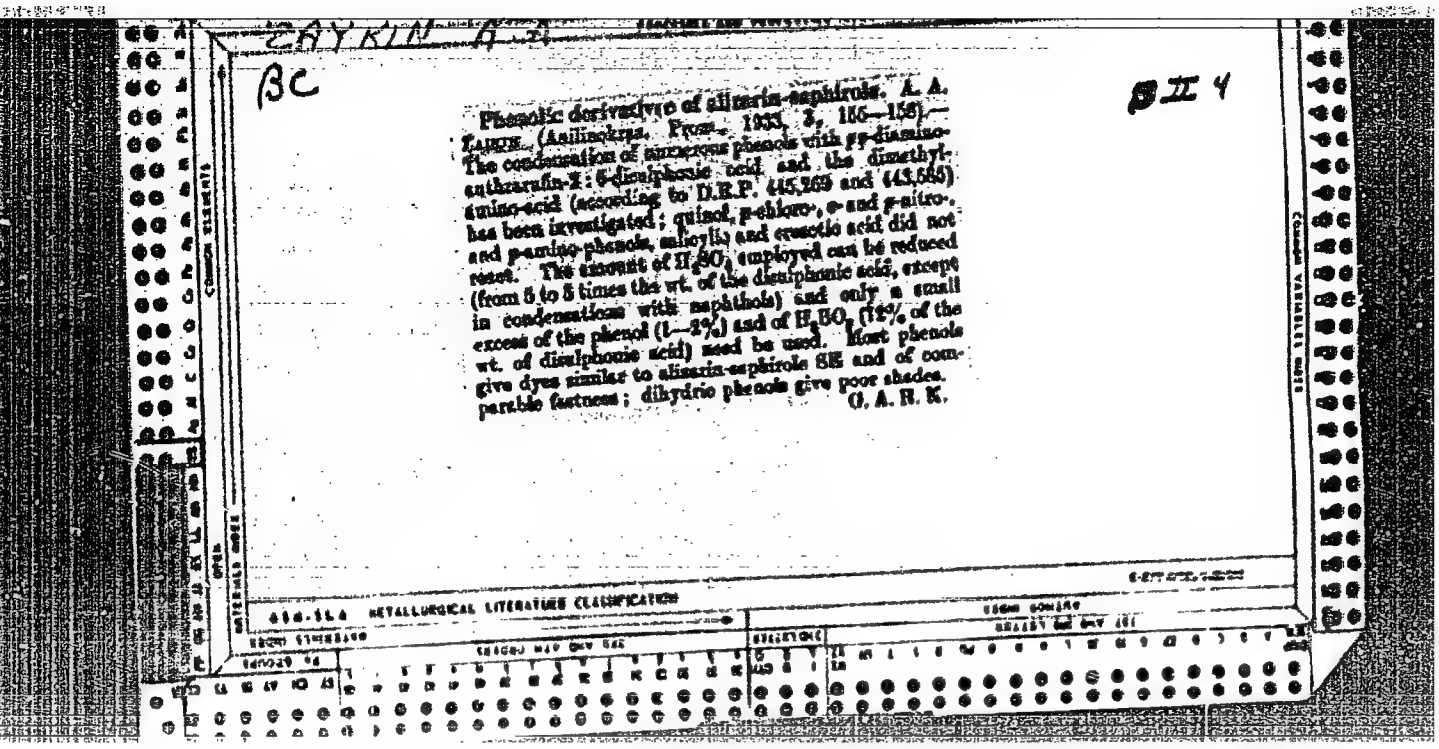


ZAYKIN A. B.

BC

B 2-4

Methods of [illegible]. M. A. Ilinskii and A. A. Zaikin (Anilinokras. Prom., 1932, 2, No. 10, 24—27).—The prep. of these compounds according to G.P. 463,043 and B.P. 376,692 (E., 1929, 155) has been reinvestigated; the former method may be simplified by using BaOH and P_2O_5 in PhCl in place of Ba_3O. They have also been prepared by the partial hydrolysis of the Ba_3 compounds with oleum; the method is particularly recommended for the 1 : 4-compound (m.p. 208—210°). G. A. R. K.



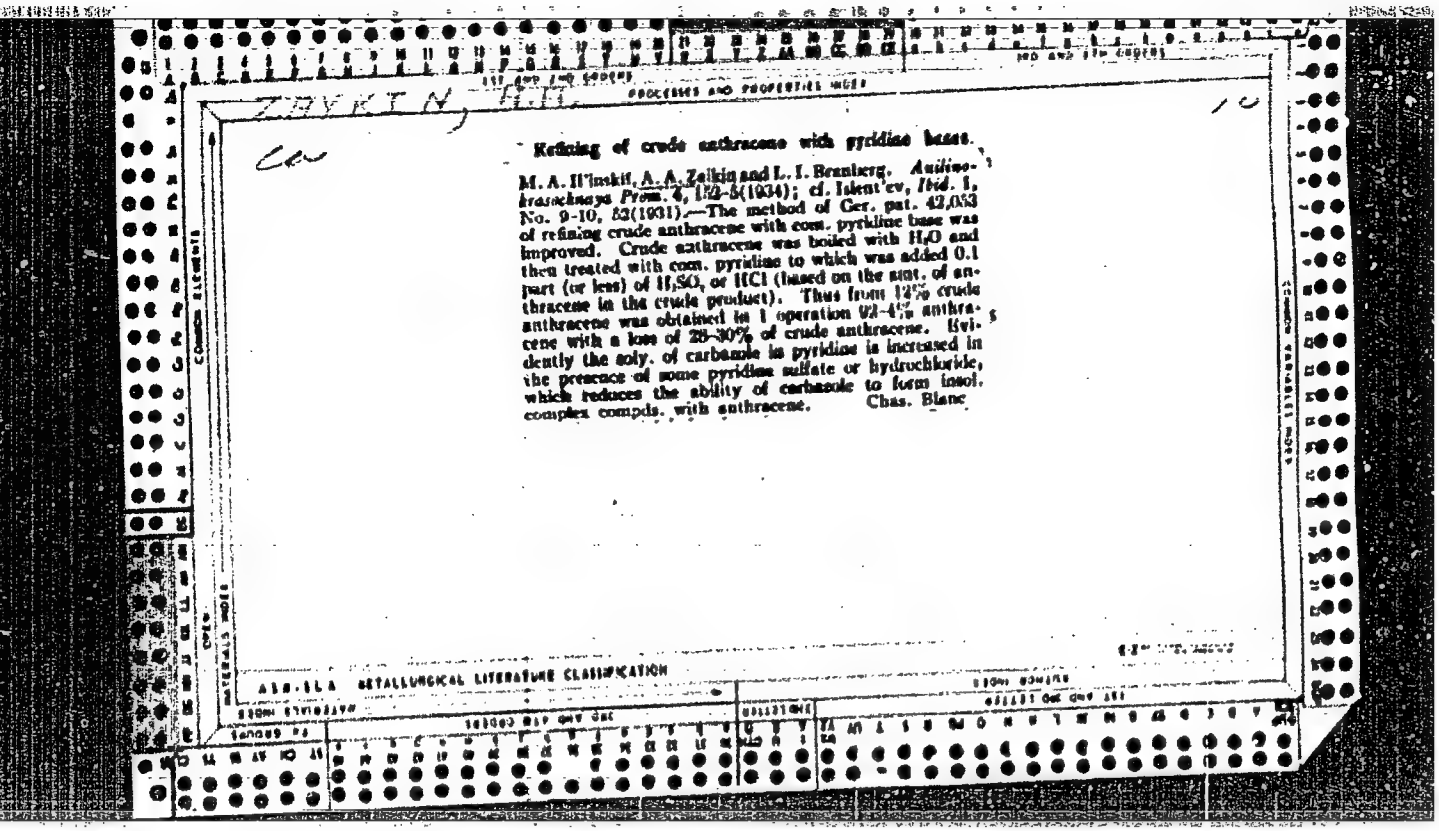
ZAYKIN A.

BC

II 4

Phenolic derivatives of alizarin-saphirols. A. A. ZAIKIN. (Anilinokras. Prom., 1933, 3, 155—158).—The condensation of numerous phenols with *pp*-diaminoanthrarufin-2 : 6-disulphonic acid and the dimethylamino-acid (according to D.R.P. 445,269 and 443,665) has been investigated; quinol, *p*-chloro-, *o*- and *p*-nitro-, and *p*-amino-phenols, salicylic and cresotic acid did not react. The amount of H_2SO_4 employed can be reduced (from 5 to 5 times the wt. of the disulphonic acid, except in condensations with naphthols) and only a small excess of the phenol (1—2%) and of H_2SO_4 (1% of the wt. of disulphonic acid) need be used. Most phenols give dyes similar to alizarin-saphirole SE and of comparable fastness; dihydric phenols give poor shades.

O. A. R. K.



ZHVKIN, L.I.

Ca

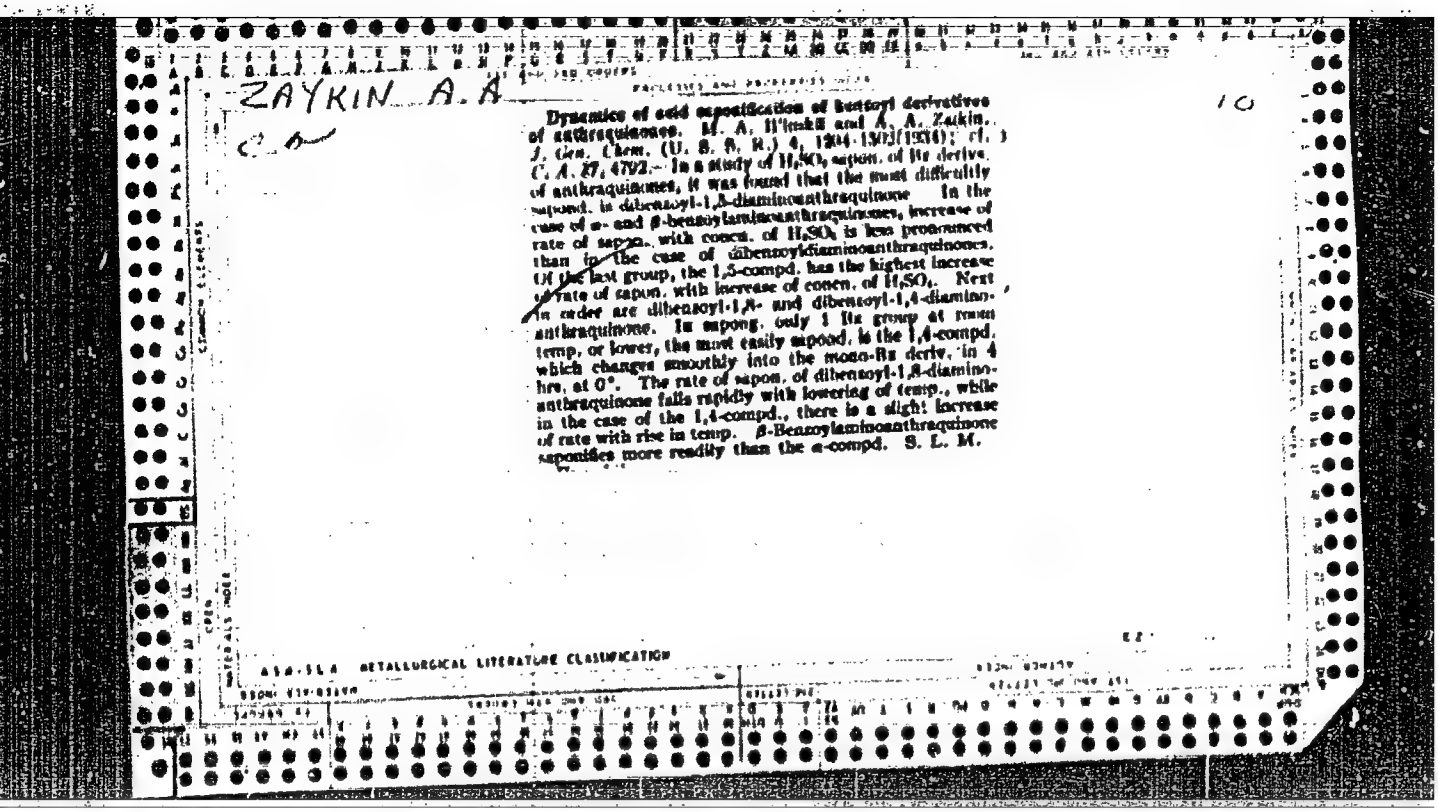
10

Refining of crude anthracene with pyridine bases.

M. A. Il'inskii, A. A. Zelkin and L. I. Brenberg. *Anilino-krasochnaya Prom.* 4, 182-5(1934); cf. Islent'ev, *Ibid.* 1, No. 9-10, 52(1931).—The method of Ger. pat. 42,053 of refining crude anthracene with com. pyridine base was improved. Crude anthracene was boiled with H_2O and then treated with com. pyridine to which was added 0.1 part (or less) of H_2SO_4 or HCl (based on the amt. of anthracene in the crude product). Thus from 12% crude anthracene was obtained in 1 operation 92-4% anthracene with a loss of 28-30% of crude anthracene. Evidently the soly. of carbazole in pyridine is increased in the presence of some pyridine sulfate or hydrochloride, which reduces the ability of carbazole to form insol. complex compds. with anthracene.

Chas. Blanc

A18.1LA METALLURGICAL LITERATURE CLASSIFICATION



ZAYKIN, A. A

10

Dynamics of acid saponification of benzoyl derivatives of anthraquinones. M. A. Il'inskii and A. A. Zaikin. *J. Gen. Chem.* (U. S. S. R.) 4, 1304-1307(1934); cf. *C. A.* 27, 4792.—In a study of H_2SO_4 sapon. of its derivs. of anthraquinones, it was found that the most difficultly sapond. is dibenzoyl-1,5-diaminoanthraquinone. In the case of α- and β-benzoylaminoanthraquinones, increase of rate of sapon. with concn. of H_2SO_4 is less pronounced than in the case of dibenzoyldiaminoanthraquinones. Of the last group, the 1,5-compd. has the highest increase of rate of sapon. with increase of concn. of H_2SO_4. Next in order are dibenzoyl-1,8- and dibenzoyl-1,4-diaminoanthraquinone. In sapong. only 1 Bz group at room temp. or lower, the most easily sapond. is the 1,4-compd. which changes smoothly into the mono-Bz deriv. in 4 hrs. at 0°. The rate of sapon. of dibenzoyl-1,8-diaminoanthraquinone falls rapidly with lowering of temp., while in the case of the 1,4-compd., there is a slight increase of rate with rise in temp. β-Benzoylaminoanthraquinone saponifies more readily than the α-compd. S. L. M.

A54-51A METALLURGICAL LITERATURE CLASSIFICATION

PETROVSKIY, I.G., akademik; OGIBALOV, P.M., prof.; ZAYKIN, A.D., dotsent

Leonid Nikolaevich Sretenskii; on his sixtieth birthday anniversary. Vest.Mosk.un.Ser.1:Mat., mekh. 17 no.2:76-80 Mr-Ap '62. (MIRA 15:6)

1. Rektor Moskovskogo universiteta (for Petrovskiy).
(Sretenskii, Leonid Nikolaevich, 1902-)

ABRAMOVA, A.A.; ANDREYEV, V.S.; ZAYKIN, A.D.; MIRONOV, V.K.; SAKHAROVA, I.M., red.; KOSAREVA, Ye.N., tekhn.red.

[Collected decisions and rulings of the Supreme Court of the R.S.F.S.R. in labor cases, 1953-1958] Sbornik postanovlenii i opredelenii Verkhovnogo suda RSFSR po trudovym delam, 1953-1958 gg. Moskva, Gos.izd-vo iurid.lit-ry, 1959. 243 p. (MIRA 13:4)

1. Russia (1917- R.S.F.S.R.).Verkhovnyy sud.
(Labor laws and legislation)

ZAYKIN, A. E.

ZAYKIN, A. E., T. M. MEL'KUMOV and A. A. DOBRYNIN.

Avintsionnye motory; posobie dlia tekhnicheskogo sostava VVS RKKA. Moskva, Gosvoenizdat, 1937+367 p., diagrs.

Bibliography: v. 1, p. 363.

Title tr.: Aircraft engines; a handbook for technical personnel of the Red Army Air Force.

TL701.Z3

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

SYROMYATNIKOVA, Z.A., kand. tekhn. nauk; CHERNYKH, A.A., kand. tekhn. nauk; ZAYKIN, A.I., inzh.; IVANOV, V.M., inzh.

Saturation irrigation on large checks. Gidr. i mel. 16 no.9:10-21 S '64. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii imeni A.N. Kostyakova (for Zaykin). 2. Yuzhnyy gosudarstvennyy institut po proyektirovaniyu vodokhozyaystvennogo i meliorativnogo stroitel'stva (for Ivanov).

ZAYKIN, D.A.

On the theory of nonspherical nuclei according to the independent particle model. Trudy Fiz. inst. 14:3-58 '62. (MIRA 16:2)
(Nuclear models)

ZAYKEN, A. YE.

AID 250 - I

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT

Call No.: TL709.Z3

BOOK

Author: ZAIKIN, A. YE.

Full Title: ATLAS OF TYPICAL LAYOUTS OF AVIATION REACTION AND TURBO-PROPELLER ENGINES

Transliterated Title: Atlas tipovykh skhem vozdushno-reaktivnykh i turbo-vintovykh dvigateley

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of the Defense Industry (Oborongiz)

Date: 1950 No. pp.: 73 No. of copies: Not given

Editorial Staff

Editor: None Tech. Ed.: None

Editor-in-Chief: None Appraiser: None

Others: Aleshchenko, S. P. prepared the text for publication; Malkov, A. N. and Minchenko, S. I., elaboration of details.

Text Data

Coverage: This atlas text-book describes the basic characteristics of aviation reaction engines and turbo-propeller engines, and contains photos and diagrams of component sets, detached junctions, and accessories.

1/2

Atlas tipovykh skhem vozdushno-reaktivnykh i turbo-vintovykh dvigateley

AID 250 - I

It is well-compiled and well-presented. However, practically all of the engines and engine parts illustrated were copied from American, British, and German sources. The author also gives a chronological review of the development of the reaction engine in Russia, starting with Sokovin, N. M. in 1866, and ending with the experimental construction of Engineer Lyulka, A. M., in 1937.

Purpose: It is a textbook approved by the Ministry of Higher Education, for students of institutions of higher learning. It is also a handbook for workers of design bureaus, and for technical staffs in aviation.

Facilities: Names of Russian scientists and engineers connected with the development of reaction engines in 1937 and before this date appear in the introduction.

No. of Russian and Slavic References: None

Available: Library of Congress.

ZAYKIN, G.G.

Council of innovators is in action. Mashinostroitel' no. 5:4 My '64. (MIRA 17:7)

L 36445-66 EWT(m)/EWP(e)/EWP(t)/ETI IJP(c) AT/WH/WW/JW/JD/JG

ACC NR: AP6018071 (N) SOURCE CODE: UR/0076/66/040/005/1070/1076

AUTHOR: Kornilov, A. N.; Zaykin, I. D.; Skuratov, S. M.; Shvaykin, G. P.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstveny'y universitet); Institute of Chemistry, Ural Affiliate AN SSSR (Institut khimii Uralskogo filiala AN SSSR)

TITLE: Standard heats of formation of niobium carbides from the NbC phase

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 5, 1966, 1070-1076

TOPIC TAGS: niobium compound, carbide, heat of formation, heat of combustion

ABSTRACT: Standard heats of formation (-ΔH) of niobium carbides (NbC_x; where: x = 0.838, 0.783, and 0.739) from the NbC phase were calculated on the basis of experimentally determined heats of combustion of these carbides in an oxygen stream at 1050°C. High accuracy of the -ΔH values was assured by using high purity carbide samples and by taking into account the formation (in the course of combustion) of CO_2, CO, H_2O, and solid products. The individual carbides used were homogeneous and their respective lattice parameters were: 4.458 Å for $NbC_{0.838}$, 4.454 Å for

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ACC NR: AP6018071

$NbC_{0.783}$, and 4.442 Å for $NbC_{0.739}$. For the series of eight samples of each carbide, the average heats of combustion (at 1050°C) were found to be: 2667.8±0.8 cal/g for $NbC_{0.838}$, 2642.1±1.5 cal/g for $NbC_{0.783}$ and 2626.2±1.3 for $NbC_{0.739}$. The calculated standard heats of formation (-ΔH) of niobium carbides from metallic niobium and β-graphite are: -30.0±0.5 kcal/g for $NbC_{0.838}$, -28.9±0.7 kcal/g for $NbC_{0.783}$, and -28.7±0.5 kcal/g for $NbC_{0.739}$. The general formula for calculating standard heats of formation of niobium carbides from NbC phase is: -ΔH formation NbC_x = 18.19+1400x kcal/g. Orig. art. has: 4 tables.

SUB CODE: 07/ SUBM DATE: 23Dec64/ ORIG REF: 012/ OTH REF: 003

Card 2/2

ACCESSION NR: AP4033403 S/0076/64/038/003/0702/0707

AUTHORS: Kornilov, A.N. (Moscow); Zaykin, I.D. (Moscow); Skuratov, S.M. (Moscow); Dubrovskaya, L.B. (Moscow); Shveykin, G.P. (Moscow)

TITLE: Standard heats of formation of tentalum carbides from Ta sub 2 C phase

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 3, 1964, 702-707

TOPIC TAGS: tantalum carbide, heat of combustion, heat of formation, Ta sub 2 C phase, impurity

ABSTRACT: The heats of combustion of tantalum carbide with $TaC_{0.455}$ (1) and $TaC_{0.507}$ (2) composition from the Ta_2C phase have been determined. The carbides had less than $5 \cdot 10^{-2}$ weight % of Sn, Cu and Mn impurities and less than $1 \cdot 10^{-3}$ weight % of Sb, Ni, Mg, Zr, Ca, Al, W, Pb, Bi and Cd impurities. The carbon content of the carbides was determined with 0.01 - 0.02 % accuracy from the content of CO_2 produced upon combustion of carbide in a stream of oxygen at 1050C. The O, N and H content was determined by the vacuum fusion method with accuracy ± 0.02 % for O and N and ± 0.001 % accuracy for H. The Nb,

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ACCESSION NR: AP4033403

Si, Ti and Fe content was determined spectrographically with accuracy of ± 0.01 - 0.02 %. The other impurities were determined by spectral analysis with accuracy of ± 0.001 - 0.005 %. By x-ray phase analysis it was established that compounds 1 and 2 are homogeneous and have hexagonal lattice with the following lattice parameters: a=3.104 Å, c=4.936 Å and a=3.105 Å, c=4.936 Å respectively. The conditions for the combustion of carbides with respect to tantalum and carbon were chosen to be approximately 100 %. The errors in the values for the ΔH^o of formation for(1) and ΔH^o of formation for(2) include the errors of determination of the heat of combustion of carbides, errors of the determination of ΔH^o of formation of Ta_2O_5 and ΔH^o of formation of CO_2 and the errors of the index for carbon in the carbide formulae. The calculated standard heats of formation for(1) and (2) from tantalum metal and β-graphite were: ΔH^o of formation for 1 is equal to -23.3 ± 1.0 kcal/g-formula wt. and ΔH^o of formation for 2 is equal to -25.1 ± 1.0 kcal/g-formula wt. Orig. art. has: 3 tables.

Card 2/3

ACCESSION NR: AP4033403

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University im. M.V. Lomonosov) Institut khimii Ural'skogo filiala AN SSSR (Institute of Chemistry of the Ural Branch of the Academy of Sciences SSSR)

SUBMITTED: 20Aug63 ENCL: 00

SUB CODE: IC NR REF SOV: 012 OTHER: 003

Card 3/3

S/195/61/002/004/008/008
E194/E555

AUTHORS: Sharonov, M.N. and Zaykin, I.D.

TITLE: Dielectric measurements on surface active substances: 1. Determination of the permittivity of aluminium oxide, silica gel and industrial aluminium-silicate catalyst

PERIODICAL: Kinetika i kataliz, v.2, no.4, 1961, 581-583

TEXT: A liquid capacitor was constructed to determine the permittivity ε of solids by the immersion method (F.Schmidt - Ref.6: Ann.Phys., 64, 713, 1921) and was used to determine ε for aluminium oxide, silica gel and industrial aluminium-silicate catalyst in various conditions. The measurements were made with a Q meter type KB-1 (KV-1). The measuring capacitor was a brass cylinder 11 cm long of 3.6 cm internal diameter into which was screwed a plate with transparent plastic insulation. The plate formed a disc capacitor with the bottom of the vessel. The screw had a travel of 1 mm and the head was divided into 100 equal divisions, so that the distance between the plate and the bottom of the cylinder could be determined to within 0.01 mm. The measuring

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capacitor was calibrated on the following standard fluids: benzene, toluol, chlorobenzene and dichlorethane. The calibrations were carried out at a frequency of 1.5 Mc/s and a temperature of 20°C. The capacitance of the capacitor empty was 16.3 pF. The temperature was controlled by placing the capacitor in a vacuum flask filled with water whose temperature was regulated to within ±0.2°C. The immersion fluids used were benzene, chlorobenzene and dichlorethane, and the permittivities of mixtures of powder and liquid were found from the calibration curves. The equipment was checked on a material of known ε, namely, calcium chloride, which was first dried and cooled over phosphorous pentoxide. The value obtained, $\varepsilon = 4.88$ at 20°C, is in good agreement with published data. The materials to be tested were first ground and sieved through a sieve with apertures of 0.1 mm; in each case 0.5 g of powder was used. Dielectric measurements were to be made on aluminium oxide, silica gel and aluminium silicate catalyst under three conditions: air dried; dried at 110°C for four hours; fired at 425°C for four hours. In the present work the absolute permittivities were not obtained for aluminium oxide under any conditions or for silica gel

and aluminium silicate in the air-dried condition. This is apparently because the specimens contained adsorbed water; some of this water was of a zeolitic character, because both drying and later firing reduced $\Delta\varepsilon$, particularly when the powders were immersed in dichlorethane. For specimens of silica gel and aluminium silicate dried at 110°C the values of ε were respectively 13.2 $\pm$0.1 and 9.2 $\pm$0.1 and corresponding values for samples fired at 450°C were 8.9 $\pm$0.1 and 8.7 $\pm$0.1. The reduction is presumably due to water being driven off. There are 5 figures and 10 references: 3 Soviet and 7 non-Soviet. The English-language references read as follows: Ref.6 (quoted in text), Ref.8: A. Maryott, E.Smith, Table of Dielectric Constants of Pure Liquids, U.S.Natl.Bur.of Stand., Circ., 514, 1951.

ASSOCIATION: L'vovskiy politekhnicheskiy institut,Kafedra tekhnologii nefti i gaza (L'vov Polytechnical Institute, Department of Petroleum and Gas Technology)

SUBMITTED: February 1, 1961

KORNILOV, A.N.; ZAYKIN, I.D.; MARTYNOV, Yu.A.; SKURATOV, S.M.

Dosage of the electrical energy supplied to the calorimeter bomb for ignition of substances. Zhur. fiz. khim. 37 no.11: 2606-2608 N'63. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

SHARONOV, M.N.; ZAYKIN, I.D.

Dielectric measurements of surface-active agents. Part 1: Determination of the dielectric constant of aluminum oxide, silica gel, and an industrial aluminosilicate catalyst. Kin.i kat. 2 no.4:581-583 Jl-Ag '61. (MIRA 14:10)

1. L'vovskiy politekhnicheskoy institut, kafedra tekhnologii nefti i gaza.

(Catalysts—Electric properties)
(Surface-active agents—Electric properties)

5(4) SOV/78-4-6-4/44

AUTHORS: Kolesov, V. P., Skuratov, S. M., Zaykin, I. D.

TITLE: The Formation Enthalpy of Lithium Oxide (Ental'piya obrazovaniya okisi litiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 6, pp 1237-1240 (USSR)

ABSTRACT: The enthalpy of the reaction of crystalline lithium oxide with water was calculated. Purest lithium oxide was used as initial material. The analysis results concerning the purity of lithium oxide are summarized in table 1. The calorimetric determinations were carried out with the apparatus mentioned in reference 6, the results are given in table 2. The reaction enthalpy of lithium oxide with water amounts to $\Delta H = 31.41 \pm 0.08$ kcal/mol at 20°, and that of Li_2O to $\Delta H = -142.8 \pm 0.3$ kcal/mol at 25°. There are 2 tables and 17 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov). Termokhimicheskaya laboratoriya im. V. F. Luginina (Thermochemical Laboratory imeni V. F. Luginin)

SUBMITTED: March 5, 1958

Card 1/1

USSR / Human and Animal Morphology (Normal and Pathological). Cardio-Vascular System. The Heart. S

Abs Jour : Ref. Zhur - Biologiya, No. 3, 1959, 12299

Author : Zaykin, M. D.
Inst : -
Title : On the Healing Processes of Myocardial Infarction.

Orig Pub : Klinich. meditsina, 1958, 36, No. 5, 103-110

Abstract : The hearts of 50 humans who died of myocardial infarction (MI) in the 50-70 year age group (34 males and 16 females; in 16 cases, hypertension preceeded the MI; in others, stenocardia) was studied. In 8 cases the dynamics of MI healing was followed histologically. 2 types of MI should be differentiated: acinous, which arises

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as the result of protracted coronary spasm (mostly muscle fibers are affected) and broad, which arise as a consequence of a thrombosis of one of the large branches of coronary vessels (broad necrosis of muscle fibers as well as of interstitial tissues of the blood vessels). Healing of MI of the first type occurs after 5-6 weeks; granulation tissue forms simultaneously on the entire area of necrotic regions and the scar forms uniformly. The healing of broad MI occurs after 2½-4 months and depends on the age, spread of the necrosis, the degree of sclerosis of coronary arteries and the functional condition of the heart muscle; granulation tissue does not

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form simulatneously; it appears at first in the peripheral part of MI with the least degree of necrosis.

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L 44567-66 EWT(1) SCTB DD

ACC NR: AP6030593 (A) SOURCE CODE: UR/0413/66/000/016/0076/0076

36
B

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ORG: none

TITLE: Multichannel device for recording human physiological functions. Class 30, No. 185005

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 76

TOPIC TAGS: human physiology, body temperature, skin galvanic reaction, respiratory system, biometrics, biotelemetry

ABSTRACT: An Author Certificate has been issued for a device used to record human physiological functions. Its components include amplifiers of biopotentials, high- and low-frequency filters, a body and skin temperature monitor, a circuit recording respiratory rate and respiratory movements of the thorax, a circuit measuring skin galvanic reactions, and a stabilized power source. Increased operating reliability and accuracy of several simultaneous measurements are achieved by suppressing synphased interference and by assuring necessary signal amplification using cascaded low-frequency amplifiers. Some signals are fed

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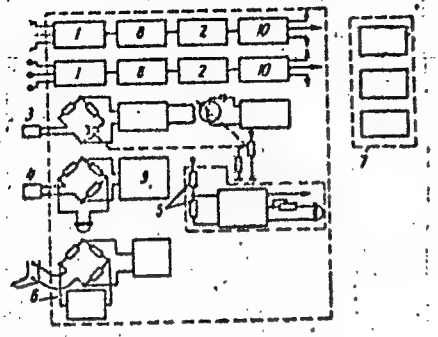

Fig. 1. Device for recording human physiological functions

1 - Amplifiers of biopotentials; 2 - high- and low-frequency filters; 3 - body temperature monitor; 4 - skin temperature monitor; 5 - circuit recording respiratory rate and thoracic movements; 6 - circuit recording skin galvanic reactions; 7 - stabilized power source; 8 - low-frequency amplifiers; 9 - transformer; 10 - output stages.

to bridges, in which the arms are automatically balanced by controlling each arm using a tube grid connected via resistance to the cathode. A variation of the above is distinguished by the fact that the temperature measurement bridge is fed by a synchro. A second variation is designed to record incoming signals from measurement channels via telemetry, and uses various types of oscillographs. It contains output stages with current and voltage switches. A general diagram of the system is given in Fig. 1. Orig. art. has: 1 figure. [CD]

SUB CODE: 06/ SUBM DATE: 28Jan65/ ATD PRESS: 5079

Card 2/2 egm

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